

REMARKS

This reissue application has been amended so as to place it in condition for allowance at the time of the next Official Action.

The Official Action of September 8, 2005 rejects claims 14, 15, 21, 22, and 25. All other claims pending in the reissue application are allowed and are unchanged. All of the rejected claims are identified as anticipated under 35 USC §102(e) by BERNHARDT et al. Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons:

The present amendment modifies claims 14, 15, 21, and 25. Each of the claims in question is a "new" claim, insofar as each of the claims in question was added during prosecution of the present reissue application. In accordance with 37 CFR §1.173 and MPEP §1453, each of the claims is properly presented entirely underlined.

The form of claim 14 as it is now presented differs from the previous form of claim 14 in connection with the final paragraph thereof. This paragraph recites that a threaded shank (column 5, lines 1-7); the head of each of the at least two bone-anchoring elements having an opening into a recess defined by an approximately hemispherical interior surface sized to receive the ball end of the threaded shank (column 5, lines 1-7; column 6, lines 7-14; Figure 10); the head having a hemispherical exterior surface (column 6, lines 7-14; Figure 10); and the interior and

exterior surfaces defining a wall therebetween, with the wall tapering as it approaches the opening (Figure 10; column 5, lines 1-7; column 6, lines 7-35).

Claim 15 in its current form matches claim 14 but for its final paragraph. The final paragraph of claim 15 replaces the recitation of the head having a hemispherical exterior surface and the tapering of the wall with a recitation that the interior surface is continuous throughout an entirety of the recess (Figure 10). Claim 21 now depends from claim 15, discussed above, and recites the feature of the tapering wall as described above in connection with claim 14.

Claim 22 is unchanged from its previous form.

Claim 25 is now modified to recite the same features as claim 22.

Applicants believe that each of the claims now under rejection and modified by the present amendment are allowable over all known prior art, including the applied BERNHARDT et al. patent. As is illustrated by at least Figure 10 of the patent whose reissue is now sought, the head 5 incorporates a hemispherical housing 12 to accept the ball 11. The interior surface of the head conforms to the exterior of the ball 11. The ball 11, and hence the interior surface 12, have a common center of rotation R1.

Another feature of the head is the hemispherical nature of the exterior of the head 57. The exterior has a center of

rotation R2. As clearly illustrated in Figure 10 and as described in column 6 beginning on line 7, this difference in the respective centers of rotation allows for the self-straightening feature of the device.

Another consequence of the differing spherical centers of the interior versus the exterior of the head is the geometric requirement that the wall that defines the exterior and interior necessarily tapers as it approaches the opening that accepts the ball 11. This feature is clearly undisclosed by the BERNHARDT et al. patent.

As is clear from Figures 3 and 5-7 of BERNHARDT et al., the corresponding element, if any, of the BERNHARDT et al. device is the wall of the sleeve 48. As is clear from any of the several cross-sectional illustrations of the BERNHARDT et al. device, the wall of the sleeve 48 is of constant thickness above the threaded portion. Moreover, the nature of construction and operation of the BERNHARDT et al. device offers no suggestion that a tapering such as that of the present invention would be of any value.

In the present invention, the tapering is a consequence of the differing spherical centers of the interior and exterior of the head, as described above. The reason for such difference in spherical centers is to allow for the self-straightening feature of the device when tightened.

In stark contrast, the BERNHARDT et al. device is specifically designed so that, even when tightened, the spherical portion 26 of the upper section 22 can be in any of a great many positions, as graphically indicated at least by Figures 3, 5 and 6 of BERNHARDT et al. The ultimate purpose of the BERNHARDT et al. device, as is evident from the title of the reference, is to provide for a multi-angle bone bolt. This differs in its very essence from the function underlying the structure of the present device, and particularly with the nature of the wall of the head surrounding the ball, as now recited in claim 14.

Present claim 15 recites that the interior surface 12 of the head is continuous throughout an entirety of the recess. This is evident both from present Figures 10 and 12 as well as the description in the narrative portion of the specification of the housing/interior surface 12 as being hemispherical.

This feature is clearly lacking from the BERNHARDT et al. device, by virtue of its required mechanism for construction. As opposed to the continuous shaped head of the present device, the BERNHARDT et al. device relies upon a two-part mechanism to create the head to capture the ball 26. Specifically, the sleeve 48 provides one portion of the interior surface of the head, while the end 36 of the lower section 32 provides the remainder of the interior surface. As is evident from each of Figures 3 and 5 of BERNHARDT et al., the resulting assembly provides for a discontinuity where the sleeve 48 meets the upper portion 46.

The BERNHARDT et al. device therefore clearly fails to provide this feature of the present invention now recited in claim 15.

Claims 21, 22, and 25 each depend ultimately from one of claims 14 and 15, and recite further features of the present invention clearly disclosed in the patent whose reissue is now sought.

The present amendment also adds new claims 31-33, of which 31 is an independent claim from which claims 32 and 33 depend. Claim 31 recites a number of features in the same manner as claims 14 and 15 as described above. Claim 31 recites a first threaded shank 7 having a ball end 11 extending from the head 5, with the recess of the head being sized to receive the ball end of the first threaded shank (column 5, lines 1-7; Figures 10 and 12). The claim then recites a second threaded shank 4 rigidly extending from the head opposite the recess (Figures 2 and 10-12). As in claim 14, claim 31 then recites the interior and exterior surfaces of the head, defining a wall therebetween.

Claim 31 further recites that the wall is integral with the second threaded shank 4. This recited feature goes to the unitary nature of the entire head 5 with the threaded shank 4. This feature also lies in stark contrast to the approach taken by the BERNHARDT et al. device, in which the entire basis for operation is contingent upon the separate formation of the components of sleeve 48 and lower section 32, with the threaded interconnection therebetween allowing the capture of the ball 26.

The BERNHARDT et al. device therefore not only fails to disclose the feature now recited in claim 31, but specifically provides for a two-part device to allow for assembly.

Claims 32 and 33 each depend directly from claim 31. Claim 32 recites that the wall closely surrounds the ball on a major surface of the ball and as is clear from at least present Figures 10 and 12.

Claim 33 requires that the opening in the head have a diameter that is smaller than a maximum diameter of the ball end. This feature is also evident from present Figures 10 and 12.

In light of the amendment provided herein and the arguments offered in support thereof, applicants believe that the present reissue application is in condition for allowance, and an early indication of the same is respectfully requested.

If the Examiner has any questions or requires further clarification of any of the above points, the Examiner may contact the undersigned attorney so that this application may continue to be expeditiously advanced.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional
fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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